

CLAIMS

We claim:

- 1 1. A method comprising:
 - 2 coding of each tile of an input codestream;
 - 3 outputting a plurality of packets of said each tile as part of an output codestream as a first complete tile-part;
 - 4 storing remaining layers of said each tile in a buffer; and
 - 5 outputting additional packets of said each tile from the remaining
 - 6 layers as a second complete tile-part.
- 1 2. The method defined in Claim 1 wherein selection of packets of
- 2 the plurality of packets for inclusion in the first complete tile-part is based
- 3 on total bandwidth for first and second passes.
- 1 3. The method defined in Claim 1 wherein selection of packets of
- 2 the plurality of packets for inclusion in the first complete tile-part is based
- 3 on size of the buffer.

1 4. An apparatus comprising:
2 means for coding of each tile of an input codestream;
3 means for outputting a plurality of packets of said each tile as part of
4 an output codestream as a first complete tile-part;
5 means for storing remaining layers of said each tile in a buffer; and
6 means for outputting additional packets of said each tile from the
7 remaining layers as a second complete tile-part.

1 5. The apparatus defined in Claim 4 wherein selection of packets
2 of the plurality of packets for inclusion in the first complete tile-part is based
3 on total bandwidth for first and second passes.

1 6. The apparatus defined in Claim 4 wherein selection of packets
2 of the plurality of packets for inclusion in the first complete tile-part is based
3 on size of the buffer.

1 7. An article of manufacture comprising at least one recordable
2 media storing executable instructions thereon which, when executed by a
3 processing device, cause the processing device to:

4 code of each tile of an input codestream;
5 output a plurality of packets of said each tile as part of an output
6 codestream as a first complete tile-part;
7 store remaining layers of said each tile in a buffer; and
8 output additional packets of said each tile from the remaining layers
9 as a second complete tile-part.

1 8. The article of manufacture defined in Claim 7 wherein
2 selection of packets of the plurality of packets for inclusion in the first
3 complete tile-part is based on total bandwidth for first and second passes.

1 9. The article of manufacture defined in Claim 7 wherein
2 selection of packets of the plurality of packets for inclusion in the first
3 complete tile-part is based on size of the buffer.

1 10. A method comprising:
2 compressing a bitstream to create an original compressed codestream;
3 performing rate control on the original compressed codestream to
4 create a new compressed codestream in response to a request by selecting a

5 number of layers to remain in the codestream, including a parser using a
6 packet structure containing a selection flag and setting a selection flag for
7 each packet of the original codestream to a predetermined value to indicate
8 whether said each packet is to be included in the new compressed
9 codestream.

1 11. The method defined in Claim 10 further comprising:
2 computing a total number of bytes for the new compressed
3 codestream based on a desired rate;
4 adding the total number of bytes associated with at least one layer,
5 starting with the most important layer and adding a new layer until the total
6 number of bytes associated with the one or more layers whose bytes have
7 been added is equal to or greater than the number of bytes desired or bytes
8 for all layers have been added;
9 subtracting bytes associated with a last added layer when the total
10 number of bytes associated with the one or more layers whose bytes have
11 been added is greater than the number of bytes desired; and
12 setting selection flags of packets associated with layers whose bytes
13 are included in the total number of bytes.

1 12. The method defined in Claim 10 further comprising writing
2 the new codestream based on whether selection flags of packets for the
3 original compressed codestream are set.

1 13. The method defined in Claim 10 further comprising reading
2 packets in sequential order from the compressed codestream based on order
3 information indicated in a marker.

1 14. The method defined in Claim 13 wherein the order information
2 comprises progression order information and the marker comprises a COD
3 marker.

1 15. A apparatus comprising:
2 means for compressing a bitstream to create an original compressed
3 codestream;
4 means for performing rate control on the original compressed
5 codestream to created a new compressed codestream in response to a
6 request by selecting a number of layers to remain in the codestream,
7 including a parser to use a packet structure containing a selection flag and to

8 set a selection flag for each packet of the original codestream to a
9 predetermined value to indicate whether said each packet is to be included
10 in the new compressed codestream to control whether individual layers are
11 included in the new compressed codestream.

1 16. The apparatus defined in Claim 15 further comprising:
2 means for computing a total number of bytes for the new compressed
3 codestream based on a desired rate;
4 means for adding the total number of bytes associated with at least
5 one layer, starting with the highest level layer and adding a new layer until
6 the total number of bytes associated with the one or more layers whose
7 bytes have been added is equal to or greater than the number of bytes
8 desired or bytes for all layers have been added;
9 means for subtracting bytes associated with a last added layer when
10 the total number of bytes associated with the one or more layers whose
11 bytes have been added is greater than the number of bytes desired; and
12 means for setting selection flags of packets associated with layers
13 whose bytes are included in the total number of bytes.

1 17. The apparatus defined in Claim 15 further comprising means
2 for writing the new codestream based on whether selection flags of packets
3 for the original compressed codestream are set.

1 18. The apparatus defined in Claim 10 further comprising means
2 for reading packets in sequential order from the compressed codestream
3 based on order information indicated in a marker.

1 19. The apparatus defined in Claim 18 wherein the order
2 information comprises progression order information and the marker
3 comprises a COD marker.

1 20. An article of manufacture comprising one or more recordable
2 media having executable instructions stored thereon which, when executed
3 by a machine, cause the machine to:
4 compress a bitstream to create an original compressed codestream;
5 perform rate control on the original compressed codestream to
6 create a new compressed codestream in response to a request by selecting a
7 number of layers to remain in the codestream, including a parser using a

8 packet structure containing a selection flag and setting a selection flag in
9 each packet of the original codestream to a predetermined value to indicate
10 whether said each packet is to be included in the new compressed
11 codestream.

1 21. The article of manufacture defined in Claim 20 further
2 comprising instructions which, when executed by the machine, cause the
3 machine to:
4 compute a total number of bytes for the new compressed codestream
5 based on a desired rate;
6 add the total number of bytes associated with at least one layer,
7 starting with the highest level layer and adding a new layer until the total
8 number of bytes associated with the one or more layers whose bytes have
9 been added is equal to or greater than the number of bytes desired or bytes
10 for all layers have been added;
11 subtract bytes associated with a last added layer when the total
12 number of bytes associated with the one or more layers whose bytes have
13 been added is greater than the number of bytes desired; and

14 set selection flags of packets associated with layers whose bytes are
15 included in the total number of bytes.